

# Conference Report

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## **OVERVIEW OF THE FEDERAL TECHNICAL STANDARDS CONFERENCE Washington, DC August 4-6, 1998**

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*Report prepared by*

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### **1. Introduction**

For several years the Department of Energy (DOE) has held annual technical standards conferences. This year, for the first time, a number of agencies joined to co-sponsor the event. The decision to expand the conference's scope was a direct result of the revision of Office of Management and Budget (OMB) Circular A-119<sup>1</sup>, promulgated in February 1998. The Circular was revised to reflect the intent of Public Law (PL) 104-113, the National Technology Transfer and Advancement Act of 1995. The newly revised Circular states that Federal Agencies are "to use voluntary

<sup>1</sup> OMB Circular A-119 can be obtained by going to this web-site: <http://ts.nist.gov/ts/htdocs/210/nttaa/nttaa.htm>.

consensus standards in lieu of government-unique standards except where inconsistent with the law or otherwise impractical."<sup>2</sup> Since many agencies are working to fulfill the mandate of the law and the Circular, DOE and NIST encouraged other agencies to hold one joint conference, thereby pooling resources and eliminating duplication of efforts. NIST has been assigned the role under PL 104-113 to coordinate Federal, State, and local technical standards and conformity assessment activities and to cooperate with the private sector on technical standard and conformity assessment activities.<sup>3</sup>

### **2. Opening and Keynote Addresses**

More than 200 people from a variety of Federal agencies and departments, private industry, and standards developing organizations (SDOs) attended the conference. Peter Brush, the Acting Assistant Secretary in the Office of Environment, Safety and Health at the Department of Energy, gave the keynote address for the conference. He spoke of the opportunities for Government agencies, industry and SDOs to work together on common policies, processes, and standards for conducting their missions and managing their work. He described how DOE has created a department-wide standards program that involves senior management and coordinates all of their key Federal and contractor organizations. DOE has also created a "Department Standards Committee," "Integrated Safety Management," "Worksmart Standards" and formal mechanisms to manage DOE's Directives.

Robert Hebner, Acting Deputy Director, NIST, spoke of the work ahead on standards management as

<sup>2</sup> OMB Circular A-119, Background Section, Question 1, page 23.

<sup>3</sup> PL 104-113, sect 12b which amends (15 U.S.C. 272(b)) to a new paragraph 13.

an opportunity to change things for the better. NIST has a duty under OMB Circular A-119 to collate and create an annual report of agency activities in standards. Last year's report indicated a significant decrease in Federal participation in standards development activities. Hebner offered several possible reasons for the decline, but regardless of the reason, the drop in participation is cause for concern. Further, he stated that we are faced with critical decisions about the global structure and systems for developing standards to ensure that they are used appropriately in trade. Federal Government employees provide technical expertise and speak for the national interest. The loss of these contributions to the system would be profound. Promoting the concept of strategic standards management, Hebner challenged the group to seize the opportunities that the changing world of standards management has to offer, and then it will come to pass that, as Sun Tzu once said, "Opportunities multiply as they are seized."

### 3. Session on Standards Management— A World of Change

Carl DeMaio, from the Congressional Institute, presented on "Changing the Way Washington Works: Implementing the Results Act and other Performance-based Initiatives." He described a worldwide movement within the public sector to focus on results, doing more with less, and accountability with flexibility. He described several instances of real government reinvention, such as the number of lives that the Coast Guard has saved. He promoted the concept of government in competition with private and social sector entities—if others can do it better and cheaper, then they should. He described how the Results Act requires each agency to provide clear linkages of its work to results that can be measured, are expressed in definitive terms, and cover all programmatic activities. Each major activity must be justified by a goal and measure that track a tangible benefit for the taxpayer.

Don Marlowe, of the U.S. Food and Drug Administration (FDA), described how the FDA implemented the Food and Drug Modernization Act, which authorizes FDA to accept declarations of conformity to FDA-recognized consensus standards as part of applications for marketing clearance for medical devices. His presentation also described the FDA standards recognition process, and their system for determining what areas of new standards development are most useful to their regulatory processes.

Gordon Elley, from the Defense Contract Management Command of the Department of Defense, spoke of the Single Process Initiative, or SPI. The SPI creates a

common process for commercial and DOD manufacturing where applicable and appropriate. Effective communication is critical to SPI's success. The value of the SPI lies in that it fosters conversion, consolidation, and modernization. It creates a leaner and cheaper industrial output, and it is key to civil and military integration. An excellent example of the SPI process is the conversion from military specifications on Quality to ISO 9000 in 200 facilities. The Defense Contract Management Command has seen considerable cost-savings from the implementation of the SPI Process. In one instance having to do with hardware variability control in Apache Helicopters, there was a savings of over \$18 million and a cost-avoidance of over \$40 million over multiple years. An SPI Council has been created, as well as a website at <http://www.dcmc.hq.dla.mil>, selecting "Centers."

### 4. Session on Standards Management— A World of Opportunities

Henry Line, AMP Incorporated, described how one global company views the role and influence of standards in the global marketplace. AMP, which manufactures electrical and electronic interconnection devices, recognizes several key global issues: common standards, mutual recognition (which implies tested once, accepted globally), regulatory cooperation, transparency, participation, and non-discrimination, the use of functional-based standards, supplier's declaration of conformity, and political commitment to reforming standards, certification, and the regulatory process. He believes that the convergence of technologies and markets will dramatically increase global competition, which, in turn, will accelerate the rate of technological change. AMP sees competitive advantage in the standards arena, especially for those companies that lead the way in standards committees and who are first to market with the required new products. Conformity assessment is the key issue of concern to AMP since, in AMP's eyes, the costs of conformance add no value to the product. AMP opposes all global management system standards that do not add value, satisfy a clear market need, or that mandate third party certification. Line stated that global coordination is a critical strategic requirement of the standardization process. He ended his speech with a quote from W. Edwards Deming; "You don't have to do any of this, because survival is not compulsory."

Jane Schweiker spoke about the American National Standards Institute (ANSI). The ANSI federation is a public/private partnership with more than 1000 member companies, more than 280 professional, trade,

educational, trade, and consumer institutions, and more than 30 government agency members. She described the strategic benefits of government participation in ANSI explaining how ANSI can help government agencies derive maximum benefit from the commercial marketplace, reduce costs of document maintenance, and to better comply with PL 104-113 and OMB Circular A-119. ANSI provides a forum for developing national standardization policy. It also provides an accreditation process for standards developers, ensuring that all stakeholders have an opportunity to participate. ANSI's role domestically is to facilitate U.S. standardization policy development, then promote those policies globally. ANSI is the U.S. member body to ISO, the International Organization for Standardization. It is one of five permanent members to the governing ISO Council and ANSI's U.S. National Committee is one of five permanent members of the International Electrotechnical Committee (IEC) Council Board. It publishes a newsletter, called Standards Action, which is online at [http://www.ansi.org/room 14](http://www.ansi.org/room14). ANSI also manages the National Standards System Network (NSSN) that gives access to standards information on-line. Users can search for standards titles electronically and can also get ordering information. NSSN can be found at <http://www.nssn.com/>.

Michael Gorman, Ameritech, discussed high-speed data access via Asymmetric Digital Subscriber Line (ADSL). He described the standards development battle that has been on going since late 1994. There are competing technologies and no clear winner yet, but the non-interoperability of two proposed systems will lead to a repeat of the "Beta vs VHS" market debacle. The value of a strategic standardization effort for ADSL will be to reduce cycle time to market and cost, as well as increases in revenues, market acceptance and adoption, brand identity, and competitive positioning.

## 5. Sessions on Federal Agency OMB Circular A-119 Implementation

Virginia Huth, of the OMB, gave an overview of the changes in the February 1998 version of OMB Circular A-119, revised after the passage of the National Technology Transfer and Advancement Act of 1995 (NTTAA), PL 104-113. The NTTAA codifies and strengthens current policies regarding standards and conformity assessment, emphasizing the use of voluntary consensus standards by the Federal government for both procurement and regulation. The Circular requires agencies to report to Congress on a number of measures, including when a government-unique standard is used in lieu of a voluntary consensus

standard. The Circular also establishes guidelines for developing a standards management system within agencies. Huth also discussed the significant decline in Federal participation that is documented in last year's report to Congress.

Belinda Collins, of NIST's Office of Standards Services, spoke of NIST's Implementation Plan for its mandate under the NTTAA. NIST provides Federal leadership and guidance on standards and conformity assessment policies. NIST holds workshops on standards and conformity assessment issues; chairs the Interagency Committee on Standards Policy; maintains an NTTAA website; and prepares the annual report on standards activities that goes to OMB and to the Congress. NIST has led the way in conformity assessment by being one of the primary forces behind the creation of the National Cooperation for Laboratory Accreditation (NACLA). NACLA is developing a comprehensive coordinated system for laboratory accreditation. NIST is also working with other Federal Agencies and with ANSI to address the proliferation and overlap of standards; the speed of standards development; and effective use of standards by Federal Agencies.

Eric Wilkenson, of the Environmental Protection Agency (EPA), described EPA's voluntary standards efforts and its specific activities for implementing OMB Circular A-119. EPA has developed a Voluntary Standards Network within the Agency to monitor, comment upon, and assist in the implementation of environmental standards. EPA has recently focused on environmental management standards, but the agency also uses voluntary standards to support rulemaking compliance activities and partnership programs with industry. EPA is developing a guide and an electronic database detailing employee participation in voluntary consensus standards activities, and has developed a Rule Writers Handbook on how to write an effective regulation using voluntary consensus standards.

John Craig spoke about the Nuclear Regulatory Commission's (NRC) activities. NRC has been using voluntary consensus standards for close to thirty years. Consensus standards are important to the NRC because they complement the agency's broad general design criteria; form a basis for agency requirements and guidance documents; and incorporate many years of accepted good engineering practices and reflect state-of-the-art technologies. The NRC is currently researching the best avenues for incorporating all stakeholders in its regulatory process. It is convening a group of standards development organizations to discuss common issues and to obtain industry input in areas where NRC thinks a new rule is warranted; and they are clarifying agency procedures for employee participation

on standards development committees. Decreases in NRC's budgets have meant tightening of belts throughout the agency, including in its codes and standards activities. A high priority item is uncovering how the NRC can most effectively and efficiently utilize the opportunities that the revised OMB Circular A-119 has made plain.

Richard Weinstein reported on the National Aeronautics and Space Administration's (NASA) implementation of the OMB Circular A-119. NASA is primarily a procurement agency that uses technical standards to design, build, and operate state of the art systems requiring high reliability. The establishment of NASA's agency-wide standards program was accelerated by the downsizing of programs and budgets, the increase of agency/industry cooperation and the revision of OMB Circular A-119. In order for a standard to be adopted by NASA, it must meet the following criteria: be technically relevant to specific NASA mission needs; be applicable to multiple programs within the Agency; have applicability to future or continuing programs; and permit the replacement/retirement of existing NASA standards. The agency is examining standards products like newsletters and the website, agency participation, NASA's technical standards under development and standards that are pending adoption in order to make most efficient use of agency standards-related resources. NASA is looking to create a "lessons learned" module and to improve their internal coordination on voluntary consensus standards development. NASA has a new standards web page: <http://standards.nasa.gov>.

Rick Serbu of the Department of Energy (DOE) spoke about DOE's activities in their Department Standards Committee (DSC). The DSC is a department-wide effort to establish standards as the basis for work, based on work hazards. The DSC is chartered to establish DOE standards policy, to identify barriers to a standards-based culture, to work with DOE organizations in order to remove those barriers, and to implement the Department Standards Program. DOE also has a Technical Standards Program (TSP). The TSP is an agency-wide program for identifying suitable voluntary consensus standards or developing necessary internal technical standards, for participating and coordinating in Standards Developing Organizations and for tracking participation in non-governmental standards activities. There are several other on-going DOE programs and standards management activities, such as Integrated Safety Management, Work Smart Standards, DOE topical committees, DOE directives systems, conversion of DOE Orders to Rules, Implementation plans, and a Regulation Writer's Handbook.

Greg Saunders, of the Department of Defense (DOD), stated that DOD has always relied very heavily

on voluntary consensus standards. DOD's policy is to state requirements as performance, rather than design-based, criteria in procurements to make maximal use of nongovernmental standards, commercial technologies, products, and practices. DOD currently reviews all standards and military specifications (MIL SPECS) every 5 years. In line with the tenets of OMB Circular A-119, implementation of a requirement needs approval of a Senior Executive Staff member before a new government standard can be developed rather than using a voluntary standard. While a large number of military specifications have been transferred to private sector, voluntary consensus standards, there is still some work to be done. A work program has been formed with the private sector to develop industry replacements for military specifications. Participation of DOD personnel in standards development activities has also been scrutinized. Where no "compelling" reason exists for participation, that participation is now eliminated. DOD is creating a database detailing the MIL SPEC transition to voluntary consensus standards.

## 6. Session on Strategic Standardization

Bob Walsh of Advance Action Associates spoke of the importance of strategic standardization in terms of examining best-in-class examples. Standards management activities are most effective when their role is recognized in the company or organization's business plans and supported actively by senior management. Some mega-examples of best-in-class concern with standardization include Ray Kroc, Sam Walton, and Bill Gates. Walsh recommends defining the needs, then defining the advantages of meeting those needs both quantitatively and qualitatively. He recommends identifying how the needs and advantages fit into the organization's current "hot buttons" and needs profile, then developing a plan to make it happen—you are then on the road to strategic standardization success.

Diego Betancourt, Polaroid Corporation, related standards and competitive advantage. The first priority in business is to make a profit. Standards are business tools which can help a company make a profit, but only if the tools are used appropriately. Standards have a significant role in an organization's ability to enhance or maintain its competitive advantage. "World Class" performance is a moving target. Companies must remain vigilant. Conformity assessment, which Betancourt defines as all procedures to assess and determine whether a product or process conforms to a specified standard, regulation or directive, affects competitive advantage. Companies must have a coordinated strategy to minimize the cost of conformity assessment. The

more strategic and proactive management is toward the issue of conformity assessment, the more likely the company will have and maintain a competitive advantage. Betancourt recommends a two-pronged strategic focus—internal and external—with strategic coordination of activities for maximum efficiencies. Internal business orientation should focus on compliance to regulations, conformance to standards, quality, health, safety, environmental, product delivery process, and manufacturing standards. External business orientation should focus on participating in global standardization trends, standards developing organizations, and governance of standards bodies.

Don Williams, of Oak Ridge National Laboratory, talked about “How Federal Agencies Could Take a More Strategic Approach to Standards Management.” He noted that the White House’s endorsement of value to strategic standards management was manifold: the Executive Order on National Performance Review/Government Planning Requirements Act and the newly revised OMB Circular A-119, which imposes tasks on agency standards executives. Williams recommended emulation of the DOE model of directives through re-engineering the rules and regulations and through driving the technical requirements down the hierarchy of policy documents, requirements documents, guidance documents to technical standards.

## 7. Session on Voluntary Standards Activities of Interest to Federal Agencies

Dan Smith, of the American Society for Testing and Materials (ASTM), spoke about the wide variety of interactions that ASTM has with the Federal Government. More than 3000 ASTM standards are currently referenced by Government agencies and more than 1500 government representatives work on ASTM committees. Smith described the types of interactions that ASTM has with each of the agencies in attendance.

Tony O’Neill spoke about the National Fire Protection Association (NFPA), a private, non-profit standards developer with approximately 69 000 members whose mission is to reduce the burden of fire on the quality of life. O’Neill described the types of standards that NFPA creates and how they are generally used by Federal, State, and local governments. O’Neill delineated Federal government participation in NFPA projects, such as DOE’s involvement in the codes for nuclear facilities. He described initiatives requested by Federal regulators, such as EPA’s Clean Agent Fire Extinguishing Systems. O’Neill described how the

general audience member could participate in NFPA’s activities. He strongly recommended that everyone peruse the NFPA website at: <http://www.NFPA.org>.

Gerry Eisenberg, of the American Society of Mechanical Engineers (ASME), discussed ASME’s nuclear codes and standards: scope of coverage and current initiatives. ASME has more than 600 published codes and standards and guides developed by nearly 4000 volunteers. Eisenberg described the ASME’s Board on Nuclear Codes and Standards, detailing the committees and subcommittees under this Board’s jurisdiction. He stressed the importance of the consensus process to ASME: openness, balance of interest and due process all being of utmost importance to every ASME committee; and the advantages of the consensus process in the public/private partnership. Government’s participation in the process creates wide acceptance of standards by public, industry and government agencies. It also creates a level of interaction that is critical for balance of interests to exist and for the quality of the product to meet all parties’ needs. In this manner, standards are continuously maintained and updated, which is critical.

Paul Orr spoke about Underwriters Laboratory’s (UL) work to support Federal agencies by volunteering resources to correlate UL standards with Federal agency documents slated for conversion. UL, in the standards development arena for the past 104 years, has more than 700 UL standards published. Since the early 1970s the U.S. Government has adopted more than 200 UL standards. Orr described the ways in which government has participated with UL in the past. He laid out the available options for how UL and the government can work together to convert standards appropriately. He recommended that agency personnel locate their Standardization Point of Contact for a review of the UL Standards Product Index at <http://www.ul.com/info/standard/htm> to find an applicable UL standard.

Jim Moore spoke about the Institute of Electrical and Electronics Engineers (IEEE) Software Engineering Standards Subcommittee, which deals with the practice of software engineering. Very often such standards cover configuration management, quality assurance, verification, and validation. They consolidate existing technology into a firm basis for introducing new technologies. At the same time, they protect the business and the buyer. Moore detailed the preferred future of software engineering standards five years from now. He also discussed the software engineering standards users’ group, which provides a forum for the discussion of issues relevant to the use of software engineering standards. For more information on this topic, Moore can be reached at [James.W.Moore@ieee.org](mailto:James.W.Moore@ieee.org).

Jean-Paul Emard, of the Electronic Industries Alliance, spoke on “Electronic Document Delivery: Plugging in EIA’s Members into Standards Development.” Emard described the myriad ways that electronic document delivery can assist Federal standards experts in doing their jobs: meeting notices, agendas, minutes, U.S. positions, final documents, electronic balloting, voting tracking and summaries.

## 8. Session on Reliability, Maintainability, and Supportability Standards (RMS Partnership) /Acquisition Reform

Dennis Hoffman discussed the Society of Automotive Engineers (SAE)/G-11’s response to changing needs. SAE has more than 75,000 members and more than 16 000 participants on its technical committees. SAE is the largest developer of technical standards for land, sea, air and space vehicles in the world. The G-11 division works on reliability, maintainability, supportability and logistics with probabilistic engineering. The current emphasis of G-11’s work is focused on the interactions and interfaces among technology development and interchange; education and training; and standards development and maintenance. G-11 has several major initiatives, including the establishment and maintenance of strategic alliances and partnerships and strategic planning—transitioning to a proactive mode of operation with a focus on industry’s needs.

Ken LaSala, of the National Oceanic and Atmospheric Administration (NOAA), spoke about IEEE’s Reliability Society. He discussed the need for industry action on standards since they represent industry consensus. LaSala described the IEEE process, highlighting inclusion and industry involvement. He delineated the Reliability Society Standards Projects and closed with the concept of unification of standards for ease of use and direction.

Curtis DeVries, of Polaroid, spoke of the U.S. Standards Group on QEDS Strategy for the Future: QEDS stands for Quality Management, Environmental Management, Dependability, and Statistics. The purpose of the U.S. Standards Group on QEDS is to satisfy the generic and sector-specific needs of U.S. stakeholders related to quality (Q), environment (E), dependability (D), and statistics (S) standards and their use. Its plan includes identifying customers’ needs; developing and delivering products; attracting, using, and retaining resources; and developing and deploying effective means of communicating to stakeholders. The Group has developed its mission, vision, objectives and strategies and is in the process of translating the strategic plan into tactical actions in the Q, E, D and S areas.

For more information on this group, contact <http://standardsgroup.asq.org>. The U.S. Standards Group is ready, willing and able to help transition MIL SPECS in to the Q, E, D, and S areas.

## 9. DOE-Specific Workshop Track

The final days of the conference were devoted to a Department of Energy Specific Workshop Track. Topics included a new DOE-Environmental Management Standard on the storage of plutonium residue materials, activities of the DOE Construction, Safety and Hoisting & Rigging Topical Committees, Savannah River Site’s ISO 14001 Certification, and the Multi-Agency Radiation Survey and Site Investigation Manual. This Track ended with a session on continuous improvement for the Technical Standard Program. For more information on the entire conference and on this workshop track in particular, the “1998 Federal Technical Standards Workshop Proceedings” Document is available from DOE, call Lori Lane at Oak Ridge National Laboratory at 423-574-7886 or [lj8@ornl.gov](mailto:lj8@ornl.gov) and ask for the following document: CONF-980822.